

CA2φN

H 60

-70R252

Government
Publications

Government
Publications

Report of the
Ontario Council
of Health on

1970


Supplement No. 2

Report of the extended supplements

Health Statistics

Part II—Implementation of a
Health Statistics System

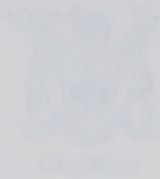
Ontario Department of Health
Honourable A. B. R. Lawrence, M.C., Q.C., Minister



HEALTH
STATISTICS

Digitized by the Internet Archive
in 2023 with funding from
University of Toronto

<https://archive.org/details/39040218110147>



REPORT OF
THE ONTARIO
COUNCIL OF HEALTH
**HEALTH
STATISTICS**
ON
**HEALTH
STATISTICS**

1970
SUPPLEMENT NO. 2

ONTARIO DEPARTMENT OF HEALTH
HONORABLE A. D. B. LEITCH, M.C., Q.C., Minister

C420N
H60
70R252



ONTARIO

**REPORT OF
THE ONTARIO
COUNCIL OF HEALTH
on
HEALTH
STATISTICS**

1970

SUPPLEMENT NO. 2

ONTARIO DEPARTMENT OF HEALTH
Honourable A. B. R. Lawrence, M.C., Q.C., Minister

THE ONTARIO COUNCIL OF HEALTH

The Ontario Council of Health was formed in 1966 as the senior advisory body on health matters to the Minister of Health and, through him, to the Government of Ontario. Council submits recommendations designed to support the overall thrust toward improved health services and it serves as a sentinel to ensure effective and economical employment of the human and physical elements required to provide these services.

The members of Council are selected to reflect a reasonable balance of public interest, expert knowledge, experience, and geographic distribution. In keeping with Council's ongoing role, members are appointed for three years on a rotational basis and may be reappointed once.

Council determines its work priorities through assessment of provincial health services requirements, tempered from time to time by more urgent requests. The successful completion of its assignments is dependent upon the able assistance of committees, sub-committees and task forces manned from the ample reservoir of health interest and expertise to be found in individuals throughout Ontario.

MEMBERS OF THE ONTARIO COUNCIL OF HEALTH

K. C. Charron, M.D., LL.D. (ex officio, Chairman)	Deputy Minister of Health and Chief Medical Officer
S. W. Martin, F.C.I.S., F.A.C.H.A. (ex officio, member)	Chairman, Ontario Hospital Services Commission
Miss C. Aikin, R.N., B.A., M.A.	Dean, School of Nursing, University of Western Ontario, London
R. Auld*	Executive Director, Ontario Society for Crippled Children, Toronto
E. H. Botterell, O.B.E., M.D., F.R.C.S. (C)*	Dean, Faculty of Medicine, Vice-Principal (Health Sciences), Queen's University, Kingston
E. A. Dunlop, M.P.P., O.B.E., G.M.	Managing Director, The Canadian Arthritis and Rheumatism Society
W. J. Dunn, D.D.S., F.A.C.D.	Dean, Faculty of Dentistry, University of Western Ontario, London
J. R. Evans, M.D., D.Phil. (Oxon), F.R.C.P. (C), F.A.C.P.	Dean, Faculty of Medicine, Principal, Health Sciences, McMaster University, Hamilton
Mrs. J. P. Forrester, B.A.	Belleville
Rev. R. Guindon, O.M.I., B.A., L.Ph., S.T.D., LL.D.	Recteur, Université d'Ottawa
G. E. Hall, M.S.A., M.D., Ph.D., D.Sc., LL.D., F.R.S.C.	Former President, University of Western Ontario, London

O. Hall, B.A., M.A., Ph.D.	Professor, Department of Sociology, University of Toronto
T. L. Jones, D.V.M., M.Sc.	Former Dean, Ontario Veterinary College, University of Guelph
J. D. Lovering, M.D.*	Medical Director, Gulf Oil Canada Limited, Toronto
R. I. Macdonald, B.A., M.D., C.M., F.R.C.P. (Lond.), F.R.C.P. (C), F.A.C.P.	Consultant in Medicine, Toronto
J. F. Mustard, M.D., Ph.D.	Professor of Pathology, Faculty of Medicine, McMaster University, Hamilton
G. W. Phelps, B.Sc.	Orillia
H. Simon	Regional Director of Organization (Ontario), Canadian Labour Congress, Toronto
W. R. Wensley, B.Sc.Pharm., M.Sc.Pharm.	Registrar, Ontario College of Pharmacy, Toronto
F. A. Wilson, Pharm.B.*	Vice-President, Parke and Parke Limited, Hamilton
<i>W. F. J. Anderson</i> <i>(Executive Secretary)</i>	<i>The Ontario Council of Health,</i> <i>Hepburn Block, Parliament Buildings,</i> <i>Toronto</i>

* Term expired November 1970

CONTENTS

<i>The Ontario Council of Health in 1970</i>	<i>xi</i>
<i>Members of Committee on Health Statistics</i>	<i>xvii</i>
<i>Acknowledgements</i>	<i>xix</i>
RECOMMENDATIONS — Supplement No. 2	3
REPORT OF COMMITTEE ON HEALTH STATISTICS — PART II	9
Section I INTRODUCTION	9
Section II CHARACTERISTICS OF THE HEALTH STATISTICS AGENCY	11
A. Functions	11
B. Resources	12
1. Personnel	12
2. Major Equipment	13
3. Budget	14
C. Relationships	14
D. Effectiveness	15
Section III OBSERVATIONS ON PRIORITIES	17
APPENDIX A Publication of Health Statistical Data	23
APPENDIX B Representations Made to Council in the Interval Between Submission of Parts I and II of the Major Report	29

APPENDIX C Recommendations 1-26, Part I
 of the Major Report 39

THE ONTARIO COUNCIL OF HEALTH IN 1970

A first "Report on the Activities of the Ontario Council of Health" was published during 1970. It consisted of a summary document with eight separate annexes containing individual committee reports and recommendations as acted upon by Council. The period covered was from Council's formation in 1966 through the calendar year 1969.

SUPPLEMENTS FOR 1970 – GENERAL

The initial report has proven useful to many individuals and groups concerned with the health care of the people of Ontario. It was therefore decided to make available the major committee reports and recommendations which were processed through Council during 1970. This was substantially a continuation of the work initiated during the first report period, relating directly to committees identified in the annexes. Therefore, it was decided to issue the new report in the form of nine separate supplements, of which this document is one. These supplements, cross-referenced to their original annexes by title, are listed below:

Supplement No. 1

Regional Organization of Health Services
Part II – A Proposed System

Supplement No. 2

Health Statistics
Part II – Implementation of a Health Statistics System

Supplement No. 3

Health Manpower
A. The Need for Family Physicians and General Practitioners for the Province of Ontario
B. Assistance for the Primary Care Physician

Supplement No. 4

Library and Information Services
Library Personnel, Manpower and Education

Supplement No. 5
Health Care Delivery Systems
Community Health Care

Supplement No. 6
Health Care Delivery Systems
Rehabilitation Services

Supplement No. 7
Health Care Delivery Systems
Laboratory Systems

Supplement No. 8
Health Care Delivery Systems
Dental Care Services

Supplement No. 9
Health Care Delivery Systems
Role of Computers in the Health Field

1970 SUPPLEMENT – HEALTH STATISTICS

The Committee on Health Statistics presented Part II of its report to the Ontario Council of Health in June 1970. Council approved the recommendations as set forth in this report.

Part I, which was presented to Council in January 1969, has already been published as Annex “G” to the Report of the Ontario Council of Health. Its recommendations dealt with the inputs into a data base in support of statistical processing and reporting and epidemiological research. Part II presents a co-ordinated series of recommendations which describe the nature and functions of a health statistics agency. Its staff would actively promote the implementation of the 26 recommendations of Part I of the Committee’s report to Council, which are repeated in Appendix C of this report.

The 16 recommendations of Part II are grouped under four subject headings: functions, resources, relationships, and effectiveness. Recommendations related to function emphasize an active role for the health statistics agency – active in identifying and monitoring health problems and in co-ordinating all processed or tabulated health-related data. To support this active role within a wide range of function, it is recommended that the health statistics agency have a

staff comprising not only statisticians but a variety of specialists, and that it have available an assured and adequate computer resource.

OTHER AREAS OF COUNCIL ACTIVITY

It will be noted that 1970 supplements to three annexes of the first report have not been issued — Physical Resources, Education of the Health Disciplines, and Health Research:

Physical Resources

In the original annex, the Committee reviewed the current situation and the related services in Ontario which affect physical resources; it highlighted some of the difficulties which exist with respect to the components of the present pattern and made certain recommendations. This completed Council action in this important area, at this stage.

Education of the Health Disciplines

Continued study has been carried out by the Committee. This has been directed primarily toward assessment of the educational requirements for the rehabilitation disciplines and a further report in the area of nursing education. These documents will be completed for presentation to Council in 1971.

Health Research

The Committee on Health Research has continued its work on the definition of the provincial role in health research. It has been devoting its attention particularly to such areas as the economics of health research; the co-ordination of health research programmes within the province, sponsored by both governmental and voluntary agencies; and the personnel support requirements needed to maintain a viable health research programme. It is anticipated that these matters will be completed in 1971.

The Committee has continued to provide direct advice to the Province on applications for financial assistance, through its Sub-committees on Research Grants Review and Demonstration Models.

During 1970, the Council initiated activity and is developing reports in the following areas:

Audio Visual Systems

The Sub-committee on Audio Visual Systems began work in March, looking into provincial requirements for instructional media systems in the education of the health disciplines, health services, and public health education.

Perinatal Problems

The Sub-committee on Perinatal Problems was established in May to give consideration to problems surrounding birth and affecting either/or mother and infant, and developing proposals for improved health services in this area.

Environmental Quality

A primary Committee on Environmental Quality was set up in October to make recommendations to the government on all matters related to the quality of the human environment, with special consideration to the health and well-being of people.

Future Arrangements for Health Education

In November, Council approved the establishment of a task force to investigate the need for a new medical school/health sciences centre, giving due consideration to new approaches to health education. The relation of health education to health services and the effect of this on the community, not the projected manpower requirements alone, will provide the basis for the study.

Two other undertakings by Council should be noted:

Committee on the Healing Arts Review

A special request was made to Council in June to review the Report of the Committee on the Healing Arts. A review group was established and it reported to Council in November. It proposed certain basic principles related to the regulation and education of the health disciplines and these, as approved by Council, were submitted to the Minister of Health.

Conference on Co-operation in the Provision of Health Services

In April, Council took an active part in a Conference on Co-operation in the Provision of Health Services, sponsored by provincial bodies representing the various health disciplines, consumers, and the Department of Health. In the public interest, it is Council's policy to consult freely with representatives of health professions, related organizations, and others who share the common bond of seeking the best possible health services for the people of Ontario. This process also occurs as part of the work of the committees of Council.

MEMBERS OF COMMITTEE ON HEALTH STATISTICS

Dr. Carol W. Buck Chairman	Professor and Chairman, Department of Community Medicine, The University of Western Ontario
Mr. David Hewitt	Associate Professor, Department of Epidemiology and Biometrics, University of Toronto
Dr. Gordon Josie	Assistant Director, General Health Services Branch, Department of National Health and Welfare
Dr. Arthur S. Kraus	Associate Professor, Department of Community Health and Epidemiology, Queen's University
Dr. Howard B. Newcombe	Head, Biology Branch, Atomic Energy of Canada Ltd.
<i>Mrs. D. Dudley, Secretary</i>	<i>Ontario Council of Health Secretariat</i>

ACKNOWLEDGEMENTS

Technical support in the preparation of this report was provided through the auspices of the Research and Planning Branch of the Ontario Department of Health. Under Dr. G. W. Reid, Director, the following staff members worked with the Committee:

Dr. A. H. Sellers	Assistant Director
Mr. W. H. Harper	Senior Operations Research Officer
Dr. J. R. Smiley	Senior Research Officer (Biostatistics)

Additional technical support was received from:

Miss N. I. Grigg	Director, Research and Statistics Division, Ontario Hospital Services Commission
Mr. L. Fazekas	Systems Co-ordinator, Management Analysis Branch, Ontario Department of Health
Mr. W. R. Fowler	Director, Data Centre, Health Insurance Registration Board, Ontario Department of Health

Recommendations

RECOMMENDATIONS

Supplement No. 2

HEALTH STATISTICS

COUNCIL ACTION

The Ontario Council of Health has approved the recommendations of the 1970 report of the Committee on Health Statistics, as listed below.

RECOMMENDATIONS

Recommendations 1 to 26 are contained in Part I of the report on Health Statistics, Annex "G", Report on the Activities of the Ontario Council of Health, June 1966 to December 1969.

A. Functions of the Health Statistics Agency

27. THAT the agency plan, co-ordinate and direct the collection of data for the health statistics system.
28. THAT the agency carry out needed health data collection and health surveys, when this cannot more feasibly be undertaken by another agency.
29. THAT the agency conduct searching analyses of health data for the purpose of identifying and monitoring health problems, investigating causes of ill-health, and providing a basis for the planning and evaluation of health programmes.
30. THAT the agency arrange for the publication in the scientific literature or elsewhere, as appropriate, of the results of the agency's analyses of health data, and publish or otherwise make available health statistical information relevant to the needs of various users.
31. THAT the agency catalogue and serve as the central access point to all health statistics data.

B. Resources of the Health Statistics Agency

32. THAT the agency include on its professional staff adequate numbers of persons with professional competence in at least the following areas:
 - a. Theoretical and Applied Statistics
 - b. Epidemiology
 - c. Sample Survey Research
 - d. Demography
 - e. Automatic Data Processing
 - f. Scientific Editing
33. THAT the agency include on its support staff sufficient technical, administrative and clerical personnel.
34. THAT the agency be free to second staff members to other divisions and branches of the Department of Health and health-related agencies of the Provincial Government, as required.
35. THAT the agency have appropriate and ample data storage facilities.
36. THAT the agency have adequate time blocked out for its regular use in some appropriate computer facility.
37. THAT the agency include in its budget funds to cover services provided by other agencies of the Government, or by non-government contract services, as required.

C. Relationships of the Health Statistics Agency with public and private agencies

38. THAT the agency have access, with due regard to requirements of privacy and confidentiality, to all health-related data and source documents collected by the Department of Health and by other Provincial Government departments, offices, and commissions.

39. THAT the agency provide an advisory statistical service on health matters to all divisions and branches of the Department and to other departments or agencies of the Provincial Government and regional and district health councils, as required.
40. THAT the agency deal with requests for health statistics data by universities, voluntary health agencies, and other non-governmental bodies.
41. THAT the agency represent the Provincial Government in all discussions of health statistics with Federal Government agencies, in consultation with other agencies concerned.

D. Effectiveness of the Health Statistics Agency

42. THAT the agency be endowed with sufficient authority to develop the health statistics system and to follow its priorities on long-term projects. Ad hoc day-to-day assignments should be kept to a reasonable level so that there will be no undue interruption in the development of the system.

Report of the Committee

SECTION I

Introduction

Under its terms of reference, set out in Part I of its Report to Council of January 1969, the Committee has undertaken the task of developing a comprehensive and co-ordinated health statistics programme with arrangements for obtaining information on a continuing basis and with the capacity for analysis of individual projects. Part I of the Report dealt with the needs, purposes and scope of the system and included a series of recommendations related to the acquisition of data. In Part II, the Committee has directed its attention to the general form of the statistical unit (Recommendation 1 of Part I) capable of meeting the needs and serving the purposes of the health statistics system. Some consideration has also been given to the priorities which should be applied to the recommendations on data acquisition and to matters related to publication policy.

Implementation of the previous recommendations, toward which end the present recommendations are directed, must be in accord with the stated needs for and purposes of a health statistics system. These, as set out in Section III of Part I, dealt with the following points:

- (a) identification and surveillance of health problems;
- (b) planning, operation, administration and evaluation of health services and programmes;
- (c) epidemiological research;

(d) efficient organization, flow, and processing of data to fulfil the foregoing objectives.

The organization and capabilities of the health statistics system must not only be related to these needs and purposes but they must be developed within the framework of current and emerging patterns of delivery of health care – medical, community and hospital.

Under these conditions and proceeding from Council concurrence in its recommendations in January 1969, the Committee has developed the form and characteristics essential for a central health statistics agency that would have the capacity to implement the aforementioned recommendations and to develop and maintain the continuing operation of the health statistics system. An appropriate organization will have to be created for the purpose. This organization, hereinafter referred to as the "Health Statistics Agency," will be described under the headings "functions," "resources," "relationships," and "effectiveness."

SECTION II

Characteristics of the Health Statistics Agency

A. FUNCTIONS

1. To plan, co-ordinate and direct the collection of data for the health statistics system.

The agency would have the responsibility for determining, in consultation with the other agencies concerned, what data should be collected in order to obtain a comprehensive and continuing account of the health status of the population and the effectiveness and cost of the health services provided to it.

The agency would make decisions as to the form of data collection, and make recommendations to appropriate officials of the Department of Health as to which agency of the government could most feasibly collect the data. These would reflect the procedural objectives of:

- (a) avoiding duplication of data collection;
 - (b) providing for uniformity and consistency of definitions and practices within the provincial system and for maximum comparability with the systems of other provinces and ultimately with those of other countries;
 - (c) using sampling techniques where appropriate.
2. To carry out needed health data collection and surveys, when

this cannot more feasibly be undertaken by another agency.

The agency would, where feasible, arrange for the collection of additional or modified health data by an appropriate service or operating agency, to fill a content gap in the system or to enhance the health value of other data already being collected by the same or another agency.

3. To conduct searching analyses of health data for the purpose of identifying and monitoring health problems, investigating causes of ill-health, and providing a basis for planning and evaluating health programmes.

This would include the analysis of health data already collected by another agency in ways not required by the operational needs of the collecting agency, in order to meet any of the stated purposes of the health statistics system.

4. To arrange for the publication in the scientific literature or elsewhere, as appropriate, of the results of the agency's analyses of health data, and to publish or otherwise make available health statistical information relevant to the needs of various users. (See Appendix A.)
5. To catalogue and serve as the central access point to all health statistics data, including information from the linked health records of individuals proposed by the Sub-committee on the Role of Computers in the Health Field.

B. RESOURCES

1. Personnel

In order to carry out the functions described above, the agency should be staffed by an adequate number of people with professional competence in at least the following areas:

- (a) Theoretical and Applied Statistics
- (b) Epidemiology
- (c) Sample Survey Research
- (d) Demography
- (e) Automatic Data Processing

(f) Scientific Editing

A sufficient technical, administrative and clerical staff would also need to be provided.

In order for the agency to be in the best position to deal with highly specific health problems and programmes and to assist in establishing priorities among these, it is recommended that some of its staff members work in a decentralized fashion. By this we mean that subject-matter specialists (e.g., in cancer, mental health) could be seconded to other divisions and branches of the Department of Health and health-related agencies of the Provincial Government as required.

It is recognized that such specialists are in short supply and that a strong programme of recruitment and training in their fields is necessary.

2. Major Equipment

Since the agency would be responsible for the processing and storage of large volumes of data and for the conduct of many complex analyses, it must have appropriate and ample data storage facilities, including micro forms, punch cards, magnetic tapes, magnetic disk data cells and, as they become available, photo-optical random access mass memory. It must also always have adequate computer services at its disposal.

While this does not necessarily mean that the agency must have computer facilities for its exclusive use, it does mean that the agency must have adequate time blocked out for its regular use, preferably in regular working hours, in some appropriate computer facility. The agency cannot depend on obtaining sufficient access to large computer facilities whose primary function is the processing of medical insurance claims or other direct services to or transactions with the public at large, since administrators of such facilities inevitably find that essentially all of their potential computer time is required for the maintenance and improvement of these services. Where workload levels peak beyond the agency's resources it should have authority to purchase data processing and statistical services of private corporations.

3. Budget

While it is obvious that a budget adequate to cover the stated functions of the agency must be provided, particular mention should be made of the necessity for funds:

- (a) to cover any costs of modifications to data collection and processing required only for the purposes of the Health Statistics System, and
- (b) to cover, possibly on a contract basis, costs of data processing and statistical services to meet peak loads.

C. RELATIONSHIPS

1. The agency should have access to all health-related data including source documents collected by the Department of Health or by other Provincial Government departments, offices, or commissions.

This access might take the form of data abstraction from, or copies of, raw data records, punch cards, or computer tapes, depending on which would most facilitate the intended use of the data by the agency. The agency would make arrangements to comply with any necessary procedures respecting the confidentiality of the data as initially collected.

The agency must be effectively represented on any advisory committee concerned with the management of health data.

2. The agency should provide an advisory statistical service to all divisions and branches of the Department and to other departments or agencies of the Provincial Government on problems related to health, as required.
3. The agency should be able to meet requests for health statistics data made to it by universities, voluntary health agencies and other non-governmental bodies.
4. The agency should, in consultation with other agencies concerned, represent the Provincial Government in all discussions of health statistics with the Dominion Bureau of Statistics and with the Department of National Health and Welfare.

D. EFFECTIVENESS

A prime condition for effectiveness of the Health Statistics Agency is that, besides having substantial resources, it must also be endowed with considerable authority. For example, it must be allowed to develop the Health Statistics System and to follow its priorities on long-term projects, without undue interruption by ad hoc day-to-day assignments. Otherwise, it cannot do what is required for the intelligent surveillance and investigation of health problems and for the rational planning and evaluation of the health services.

Just what this entails with regard to an appropriate location of the agency in the government framework is a matter that cannot usefully be discussed by an outside committee. Specifications of this type are always liable to become obsolete as government organization changes. It is for this reason that we have used the very general term "agency" (rather than "division," "branch" or "section") in referring to the body that would be charged with responsibility for the Health Statistics System.

Nevertheless, we wish to make it clear that the functions of this body must be given a high priority in the overall programmes now being developed to serve the health needs of the people of Ontario, otherwise neither the requirements nor the achievements of these programmes will be adequately assessed.

SECTION III

Observations on Priorities

The Committee always recognized that it would be quite impossible, and might not even be desirable, to implement all its recommendations simultaneously. It therefore made several attempts to arrange these recommendations in some sort of order that might be helpful to those charged with implementation.

There was seen to be a wide variety of grounds on which a particular recommendation might be selected for high placing in such a list. It might be judged to have high intrinsic importance. It might be relevant to some current emergency. It might offer a favourable margin between expected benefits and costs. It might be timely in the sense that delay would add to the costs and difficulties of eventual implementation. It might be a prerequisite for some other item in the list. It might meet a need felt by other committees of Council.

In the face of these quite different criteria it was obvious that there could be no uniquely correct ordering of our recommendations. In this final section of the report we therefore do no more than record certain observations about the separate recommendations of our Part I report which may be useful in the eventual establishment of priorities.

Recommendation 1, concerning responsibility for co-ordination of the system is, of course, pivotal. The importance attached by the Committee to this first recommendation may be gauged by the fact that *all* the new recommendations made in this Part II of the report

are concerned with the manner in which Recommendation 1 should be carried out.

Special concern over *Recommendations 10 and 25* (Individual Numbers Common to O.M.S.I.D. and O.H.S.C. and Linkage of Data Files) was expressed in previous communications to Council (see Appendix B). These recommendations were considered urgent in relation to the advent of O.H.S.I.P. In the view of the Committee the reasons for this concern still apply.

It will be convenient to review the other 23 recommendations of Part I in the order in which they were originally presented.

Recommendations 2 through 7 (Census, Population Projections, and Family Formation) all fall in the general area of vital statistics and are not expected to make any net demand on the resources of the Department.

Recommendation 8 (Registration of all Foetal Deaths) proposes a relatively simple extension of the registration of foetal deaths to include the period prior to 20 weeks gestation in which the great bulk of these deaths occur. This would be an important gain in relation to the study of three current major health problems or issues – reproductive patterns and population growth, drug-induced or other causes of reproductive wastage, and induced abortions. It is noted that the Department has recently decided to amplify its data collection in the area of late foetal death.

Recommendation 9 (Notifiable Diseases): We feel that effort should now be put into a thorough review of the criteria for reporting communicable diseases in order to develop the most appropriate reporting and recording mechanisms for the four different categories mentioned in Part I of our report (page 30). Only some diseases require statutory notification for their control; others might better be recorded or identified through the O.H.S.I.P. mechanism or through the sample health survey (Recommendation 15).

Recommendation 11 (Annual Incidence Rates from O.H.S.I.P. and/or O.H.S.C. data) suggests a possible short cut to an objective not otherwise attainable until some years beyond the achievement of extensive data linkage. At the request of the Committee, the O.H.S.C. is conducting a pilot study of the procedure recommended.

Recommendation 12 (Inactive Data File Retention – O.H.S.C.) would extend to hospitalization data, a principle applied to medical services information since the inception of O.H.S.I.P. Its implementation would be rendered easier and more rewarding by the introduction of an individual numbering system common to O.H.S.I.P. and O.H.S.C. (Recommendation 10).

Recommendation 13 (Accidents – Cause and Nature) would extend to non-fatal accidents, a practice long regarded as proper in relation to the small proportion of serious accidents that kill their victims outright. This is one of the areas for which sampling might be considered as an alternative to 100 per cent coverage. In addition to the desirable modification of reporting forms already proposed, which could be a long-term development, we would recommend, as an immediate subject for study, the more extensive collection and analysis of accident statistics from presently available diverse sources, viz., death certificates, hospital A/S forms, and motor accident reports.

Recommendation 14 (Chronic Disability), like Recommendation 13, seeks to put some flesh on our present somewhat skeletal image (largely derived from mortality data) of the long-term effects of disease and injury. We believe that the development, first of all, of a register of long-stay institutions and, secondly, of an annual reporting system for patient data, should receive early attention in the Department.

Recommendation 15 (Health Survey of Ontario) is the only one to call for the tapping of an entirely fresh data source, and for this reason requires early action in order to engage the necessary staff and develop procedures for collecting data even now urgently needed in the field of health care.

A sample survey is the method of choice for obtaining representative data on many aspects of public opinion, attitudes and practices related to matters important in health planning and in the evaluation of health programmes. Desired number of children and changes in smoking habits are examples of such attitudes and practices. In addition, the survey would provide a valuable supplement to data gathered by less adaptable and versatile instruments; this could deal with broad trends in the frequency of illness and disability and in the utilization (or reasons for non-utilization) of various preventive, diagnostic and therapeutic services.

Recommendations 16 and 17 (Deaths — Multiple Diagnostic Coding; Autopsy Data Format) are technical proposals, concerned with increasing the value of existing mortality records.

Recommendations 18 through 21 (Preventive and Other Procedures, Physical Resources, Manpower Data, and Health Service Operational Data) would each involve development of a substantial system of data collection and analysis, at considerable expense. In each case some data is already collected and analyzed, and the task at hand would involve an orderly expansion and co-ordination of existing activities to fill gaps in data collection, to provide additional linkages between data files, and to broaden the scope of analyses. The data represented by these manpower and resources areas are of concern basic to the planning and evaluation of health services, and there is apt to be an increasing need for such data for these purposes.

Recommendations 22, 23, and 24 (Environmental Data, Monitoring Exposure to Occupational Hazards, Detection of Occupational Hazards) relate to concerns that have come in much stronger vogue since the submission of Part I of the report. This is because of wider public apprehension about the ecological and health effects of some forms of pollution, the rapidity with which new processes and pollutants are introduced, the delay in recognition of hazards, and the length of time needed to take corrective action. The Committee is aware of some changes in allocation of official responsibilities regarding air and water quality. We feel, however, that this in no way lessens the obligation of the Department, and the Health Statistics Agency in particular, to ensure the systematic collection and evaluative study of environmental measurements with particular reference to effects on health.

Recommendation 26 (Unique Individual Numbers — National System): The first step in implementation is contained in the recommendation and should be taken at once because it requires no resources, only negotiations. We recommend the eventual use of the Social Insurance Number not only to identify insurance contracts, but to identify individuals.

Appendix A

PUBLICATION OF HEALTH STATISTICAL DATA

APPENDIX A

Publication of Health Statistical Data

There has been some discussion in the Committee concerning the types of publication that may be most suitably undertaken by a provincial Health Statistics Agency. These types include the following possibilities:

- (a) **Raw or processed figures.** A typical publication of the raw variety presents absolute amounts and frequencies rather than rates, ratios or unit costs, and abstains from interpretation and commentary. Its tables may use rather finely broken-down classifications, that can be grouped together by different users in various ways. At the processed extreme, tabular material is concise and so arranged as to support or illustrate a point made in the verbal text.
- (b) **Scheduled or occasional.** Scheduled publications may deal with a wide variety of events, reported together only because they occurred within the same calendar, fiscal or operational year. A certain rigidity may be dictated by the requirement of preserving continuity with tables published in earlier years, since series of such tables are to be the source material for later analyses. Occasional publications are those put out when there is something new to say, and are more likely to deal with a single topic, marshalling all the relevant data available.

The publication policy of DBS in the health field has, up to the present, favoured raw products, put out on a schedule, and apparently addressed to a fairly small number of expert users.

The publications from the office of the provincial Registrar General also fall into the categories of scheduled and somewhat raw, with a brief prefatory text used mainly to set selected current figures beside those of previous years. The small printing order placed for these reports indicates that a wide readership is neither expected nor sought.

The O.H.S.C. has also published its statistical reports on an annual schedule, coupling a brief interpretative report with a bulkier statistical supplement. An interesting feature of the most recent report in this series is the inclusion of criteria or norms (percentile values of selected hospital indicators) that may assist the user to draw some additional conclusions for himself.

The committee is not aware of any formal statistical publication produced by O.H.S.I.P. in the health statistics field.

The Medical Statistics Division of the Department, besides its regular reports, has published an important series of special reports on vital and health statistics which, in the Committee's view, are the most valuable precedents for future publications by the agency. These have included, for example, a report on local health area statistics for medical officers of health, and reports on subjects of general interest in public health – maternal mortality, 1921-1966; infant mortality and stillbirths, 1925-1967; trends in vital statistics, 1931-1966. The Division has also been able to obtain wider notice for certain of its studies through the medium of medical and public health journals, a useful practice that should be continued and, if possible, extended.

It should be clear from other statements by this Committee that it would very much like to see the agency undertake publication of at least some reports uniting data from the vital records system with data acquired through the hospital and medical services insurance schemes, as well as with information from sample surveys or other non-routine sources. This work need *not* be postponed until the achievement of some province-wide information network, linking together various personal data files. It would probably have been carried out already if the several producers of health statistics in the province had been subjected to some central co-ordinating influence.

Three other, mutually-related developments that we expect and encourage are:

- (i) reduced emphasis on the annual report and the printed source book as major statistical products;
- (ii) wider dissemination of health statistical information processed to a state in which it can be assimilated by the simple act of reading;
- (iii) development of means for publicizing the existence and the characteristics of raw data held on file. This could be done by letters to or notices in medical and scientific journals.

One of the major reasons for these developments is that intensive users of statistical information would find it more convenient to have their individual requirements "programmed out" from computerized data files.

Appendix B

REPRESENTATIONS MADE TO COUNCIL IN THE INTERVAL BETWEEN SUBMISSIONS OF PARTS I AND II OF THE MAJOR REPORT

APPENDIX B

Committee on Health Statistics Report of June, 1969

Following presentation of its report on a Health Statistics System for the Province, the Committee was requested to proceed with considerations of implementation and data output. The recommendations were reviewed to determine which needed immediate attention and/or clarification and elaboration.

The Committee is prepared at this time to comment in these terms on Recommendations 10 and 25, accepted in principle by Council at its January meeting. This matter has been dealt with in the following sequence:

1. Recommendations 10 and 25, as accepted in principle by Council.
2. Proposed modification of Recommendation 10.
3. Basis for recommending early implementation of Recommendations 10 and 25.
4. Proposed method of implementing Recommendations 10 and 25.

**1. Recommendations 10 and 25,
as accepted in principle
by Council, January 30, 1969**

10. Individual Numbers Common to O.M.S.I.D. and O.H.S.C.

It is recommended that, to serve a number of purposes, insured individuals in Ontario Medical Services Insurance Division (O.M.S.I.D.) and Ontario Hospital Services Commission (O.H.S.C.) be identified by a common number used in both systems, such as their Social Insurance Number or Birth Registration Number, in addition to any separate O.M.S.I.D. or O.H.S.C. number that may be required for administrative purposes.

25. Linkage of Data Files

Since many of the foregoing recommendations require for their implementation the bringing together of a variety of health data pertaining to one individual or family, it is recommended that the health statistics system ultimately acquire the capacity for complete data linkage, together with the technical and legal means to ensure that individual privacy is adequately protected. As a currently feasible first step, the following types of record linkage are suggested:

- a. linkage between hospital records, to identify repeat admissions of the same person;
- b. linkage between hospital and death records, to provide information on the outcome of treatments that patients have received in hospital;
- c. linkage between medical care insurance claims for the same individual;
- d. linkage between medical care insurance and hospital records (see Recommendation 10);
- e. linkages within the vital records system to establish family relationships, for studies of family constellations of disease.

Permissible specific applications of record linkage are limited by the quality of the original records in relation to the new purpose and must recognize the limitations implicit in coding.

2. Proposed modification for Recommendation 10 (Notice served in a letter to Chairman of Council, April 14, 1969)

"It is recommended that insured individuals in Ontario Medical Services Insurance Division (O.M.S.I.D.) and Ontario Hospital Services Commission (O.H.S.C.), or other persons served by these organizations, be identified by a number (or numbers) common to all systems, that will identify the individual and his corresponding family group. Such a numbering system could be based on the Social Insurance Number in addition to any separate O.M.S.I.D. or O.H.S.C. number that may be required for administrative purposes."

3. Basis for recommending early implementation of Recommendations 10 and 25

The imminence of "Medicare" creates something of an emergency situation for the authorities who have to prepare for greatly increased responsibilities. A feature of this situation is that opportunities now exist for systems modification which will not recur for some years. This memorandum has an urgent and practical purpose: to specify the steps by which a key recommendation of the Health Statistics Committee could be implemented now. We therefore avoid any lengthy discussion of the benefits anticipated from this action, but do feel it necessary to begin with a brief reminder of their general nature.

So far as the operators of health insurance and medical care schemes themselves are concerned, linkage could:

- (i) Make available histories of previous contact with health services throughout the province, which can be of value for the treatment of the patient as well as for administrative purposes;
- (ii) Assist identification of problem patients or families in need of special care;
- (iii) Provide evidence on the effectiveness of medical and surgical treatments in terms of the further demands for health care and the risks of death.

Reference to these *service* uses of linkage has already been made in our main Report (Part I, pp. 47-53) but, as our Report also

stresses, it is important to be aware of the health *research* uses of record linkage. These have been the subject of a recent publication by the Medical Research Council of Canada (Report No. 3, 1968) to which reference may be made, particularly for its series of appendices dealing with applications to genetics, epidemiology, and demography, as well as with costs of record linkage, compactness of storage of machine-readable records, and other matters.

It seems likely that, in the long run, most of the benefits of record linkage would become attainable merely as by-products of administrative rationalization, and thus at no net cost. In the shorter term, however, the linkage capability recommended by the Committee can only be bought at a price. Since we do not know how to express the associated gains in dollar terms, and doubt whether this can be done in any definite way, we conclude this section with two rather general considerations of relevance to the cost/benefit issue:

- A) According to the old business adage, "You must spend money to make money." Likewise, non-profit enterprises must spend money to save money. Budget officers have to ask themselves whether enough is being spent on the purchase of data required to plan more economical and effective services.

In the words of another Medical Research Council report (No. 2, 1968):

"... No major industry in a developed country operates in the way in which the Government of Canada and the provinces run their health industries. All industrial companies devote a substantial proportion of their profits to developmental and operational research. Until recently the money for this type of research had to come out of industrial earnings. More recently, in a very significant policy decision, the Government of Canada made available to industry sums of money to stimulate the establishment of research. Particular attention is directed to this analogy with industry because the delivery of health services is indeed an industry. Health services are one of the major employers of labor in this country and one of the biggest spenders on supplies and consumable material. These services should be conducted as efficiently as a major industrial concern or public utility."

- B) What may be called the Canadian model for the provision of health care, in which public operation and universal coverage are

combined with fee-for-service, is unusual, if not unique. It is also peculiarly favourable to the evolution of a population-wide health information system of a type which is as yet beyond the reach of, for example, the United States. Thus Canada, and Ontario in particular, has a chance to lead in the development of a rather new type of community and scientific resource.

4. Proposed method of implementing Recommendations 10 and 25

As a first step in creating the capability for computer linkage of health-related records, it is proposed that appropriate identifying information be gathered for all O.M.S.I.P. and O.H.S.C. registrants, in a uniform fashion, and that this be regarded as standard for general use in any future health care insurance schemes in the Province of Ontario.

On the assumption the Social Insurance Number will not be assigned at birth in the near future, reliance must be placed on the more discriminating and stable items of personal identification in common use, and questions about these should be incorporated into the forms for new applicants, and into questionnaires for existing registrants.

To link the records for individuals, three items are of special importance:

- (1) birth date (day, month and year)
- (2) birth place (i.e. province or country)
- (3) birth surname

To link the records into family groupings, extending to include the families of origin of persons at all ages, reliance must be placed on the parental pairs of birth surnames for each individual.

In addition to the above, such numerical identifying information as Social Insurance Numbers, O.H.S.C. Numbers, and the numbers for previous O.H.S.C. and O.M.S.I.P. contracts, should be obtained not only for the contract holder but for his dependents who have such numbers.

There seems to be a special reason at the present time to attempt

to accommodate all of the above kinds of identifying information in a single file for all major health care insurance programmes, rather than to introduce them piecemeal.

Every effort should be made to develop a complete system for linkage by requiring private carriers to comply with the same standards as O.M.S.I.P. and O.H.S.C. with respect to the identifying information on their application form and in their files.

A suggested application form for O.M.S.I.P. and O.H.S.C. which would permit linkage is attached.

Appendix C

RECOMMENDATIONS 1-26

PART I OF THE MAJOR REPORT

APPENDIX C

Recommendations 1-26 ***Part I of the Major Report***

1. Co-ordination – Health Statistics System

THAT the health statistics system be capable of providing comprehensive statistical services based on data of adequate quality, and that the essential co-ordination, standardization, and evaluation of the system be the primary responsibility of an appropriate unit of the Department* of Health itself.

2. Dominion Census – Data Acquisition

THAT the Department have access to copies of tapes from the Census Division of the Dominion Bureau of Statistics bearing Ontario population data at decennial and quinquennial census years and, further, that arrangements be made for computer processing of these data to provide the demographic information needed for provincial or local studies of health problems and health care.

3. Dominion Census – Provincial Participation

THAT the Department make formal arrangements for the inclusion of its appointee as a full member of any provincial task force charged with advising the Dominion Bureau of Statistics on

* Except when qualified, as in the present instance, the term "Department" means all health related provincial agencies reporting to the Minister of Health, including the Ontario Hospital Services Commission and the Health Insurance Registration Board.

the preparation of census schedules, and that the Department take the initiative in formally advising the Dominion Bureau of Statistics at an appropriate early time of its requirements with respect to the census.

4. Municipal Census – Data Acquisition

THAT, in order to facilitate the estimation of local demographic data for intercensal years, the Department have access to population data obtained from the annual municipal household assessments, at least in tape form.

5. Municipal Census – Department of Health Participation

THAT the Department seek the co-operation of the Department of Municipal Affairs in ensuring that relevant changes in local census methods, schedules, and codes, serve to increase the usefulness of data for health purposes.

6. Population Projections

THAT, for purposes of planning, the Department, in the interests of uniformity and efficiency, continue to make use of those population projections already available from the Economic Planning Branch, Department of Treasury and Economics.

7. Family Formation, Characteristics, and Dissolution

THAT in the next major review of the content of the existing record forms for marriages, births, deaths, adoptions, and divorces in Ontario, special attention be given to the value of social and biological data such as occupation and racial origin, and of specific identifying information such as the birth dates of parental couples by means of which these records may be linked together into family groups, for studies of family formation and dissolution, and familial patterns of disease occurrence.

8. Registration of all Foetal Deaths

THAT the reporting of foetal deaths by physicians be extended to include all foetal deaths, regardless of the period of gestation.

9. Notifiable Diseases

THAT the reporting system for communicable diseases be re-examined with a view to facilitating the early and complete reporting of serious and controllable infectious diseases and the development of reporting on an adequate sampling basis for infectious diseases whose remote consequences are unknown.

10. Individual Numbers Common to O.M.S.I.D. and O.H.S.C.

THAT insured individuals in Ontario Medical Services Insurance Division and Ontario Hospital Services Commission, or other persons served by these organizations, be identified by a number (or numbers) common to all systems, that will identify the individual and his corresponding family group. Such a numbering system could be based on the Social Insurance Number in addition to any separate Ontario Medical Services Insurance Division or Ontario Hospital Services Commission number that may be required for administrative purposes.

11. Annual Incidence Rates

THAT the Health Insurance Registration Board collect data on hospitalizations under Ontario Hospital Services Commission and on physicians' services under Ontario Medical Services Insurance Division in such a way that annual incidence rates of various diseases, disorders, and injuries, within the insured population, can be calculated. The preferred method for accomplishing this would be to require an indication on claims for payment by hospitals and physicians of those diagnoses which were first established in the course of the medical care involved in the claim.

12. Inactive Data File Retention

THAT individual patient data arising from hospital or medical claims processed by Ontario Hospital Services Commission and Ontario Medical Services Insurance Division, respectively, be retained for the purpose of retrospective studies, especially those for disease entities of low frequency. Original claim forms should be retained where feasible. More importantly, the magnetic tape record as coded from the original individual document should be permanently retained. If it is necessary to remove an individual record from the "active file" tape, it should be transferred to a

“dead file” tape for permanent storage. This recommendation proposes the continuance of current Ontario Medical Services Insurance Division practice and an initiation of the same practice by Ontario Hospital Services Commission.

13. Accidents – Cause and Nature

THAT, in respect of accident data, at least for the principal injury the external cause of injury be recorded on hospital and physician claim forms, in order to delineate components which contribute most to the total accident rate and those whose occurrence could most readily be reduced by preventive programmes.

14. Chronic Disability

THAT statistics be collected annually from institutions which provide a relatively permanent residence for persons who are physically or mentally disabled or are particularly likely to be so. These institutions would include nursing homes, homes for the aged, homes for the blind, mental hospitals, chronic disease hospitals, homes for the disabled, and similar institutions. The statistics collected would indicate the number of admissions, duration of disability, discharges to private residence, transfers to other institutions, death during the year of persons with physical and mental disabilities, and the number of such persons resident in the institution on a particular date, all classified according to age, sex, nature of and functional extent of disability or impairment. They would include only those individuals whose residence was considered to have been the institution while they were staying there.

15. Health Survey of Ontario

THAT a continuing health survey be conducted in a suitably designed representative sample of the population of the province; a minimum size of about 2,000 households per year is suggested. This might be carried out in co-operation with other departments of the Ontario Government or the Dominion Bureau of Statistics. From such a sample, special information could be obtained, varying in its content from time to time according to the requirements of the Department or other health agencies, on the incidence and prevalence of diseases and disabilities, on the use of health care facilities, on unmet needs for medical care, on

attitudes to, knowledge about, and practices relating to health matters, and on physical and other characteristics whose relationship to health needs to be defined.

16. Deaths – Multiple Diagnostic Coding

THAT, in the coding of the cause of death from the Medical Certificate of Death, all causes listed in section 6 of the certificate be coded to make this information accessible for special studies. This might also afford an opportunity to automate the selection of the underlying causes from those listed in section 6 of the certificate.

17. Autopsy Data Format

THAT, it being desirable to have mortality data supported by an autopsy report, when one has been performed, to this end a uniform pathologist's autopsy report be developed for Ontario with a view to its completion on a routine basis by pathologists and its incorporation into the mortality reporting system.

18. Preventive and Other Procedures

THAT a mechanism be developed for reporting preventive and diagnostic screening procedures, such as immunizations and Papanicolaou smears. The reports could serve a number of purposes:

- a. to provide data on the frequency of such procedures, in different segments of the population;
- b. to facilitate studies of the effectiveness of preventive measures and of the value of diagnostic screening procedures;
- c. to permit access to individual data of such kinds, where needed for the purposes of health care.

19. Physical Resources

THAT a register of physical resources be established for Ontario to include information on capacities, type and volume of services, type and numbers of health personnel, location, and population served, with respect to:

- a. general, special, and psychiatric hospitals and tuberculosis sanatoria;
- b. nursing homes;
- c. ambulatory and out-patient treatment facilities;
- d. public health units and departments;
- e. voluntary health and related agencies serving people in Ontario.

These registers should be maintained by a system of annual reports or returns. The annual returns of hospitals and temporarily approved nursing homes will serve this purpose for the institutions which they cover.

20. Manpower Data

THAT the Department ensure that adequate information on health personnel is available for health planning purposes for at least the following categories: doctors, dentists, and nurses. For each of these categories, the data should be recorded in register form and should include:

- a. location;
- b. age;
- c. sex;
- d. employment status, e.g. full-time, part-time, retired;
- e. nature of major work or employment, e.g. private practice, hospital, public health.

21. Health Service Operational Data

THAT, for health service operational data:

- a. the health statistics system include adequate provision for data on the availability, use, and cost of health services, to serve the purposes of planning, operation, and evaluation;

- b. although additional information concerning operations need not be centralized because it is primarily a responsibility of the operating institution and financing institution, such additional information should be accessible to the Department;
- c. the regular statistics required for administrative operations be supplemented on a special study basis as required for planning and evaluation in relation to standards or other criteria of health care.

22. Environmental Data

THAT the health statistics system for Ontario develop and incorporate all relevant data for the monitoring and evaluation of the health effects of environmental factors and for the development of standards of exposure to environmental pollutants.

This would require, for example, that data concerning the quality of water, air, and food, be collected, stored, and processed in such a way that they can be related to geographically relevant morbidity and mortality data.

23. Monitoring Exposure to Occupational Hazards

THAT the health statistics system for Ontario incorporate data from industrial health records to assess the extent of exposure to risk from contaminants or other hazards and also to evaluate existing threshold-limit criteria or to establish new ones.

24. Detection of Occupational Hazards

THAT the Department stimulate, assist in, or conduct epidemiological and other field studies of the health of occupational groups and of the health effects of specific occupational exposures.

25. Linkage of Data Files

THAT, since many of the foregoing recommendations require for their implementation the bringing together of a variety of health data pertaining to one individual or family, the health statistics system ultimately acquire the capacity for complete data linkage, together with the technical and legal means to ensure that

individual privacy is adequately protected. As a currently feasible first step, the following types of record linkage are suggested:

- a. linkage between hospital records, to identify repeat admissions of the same persons;
- b. linkage between hospital and death records, to provide information on the outcome of treatments that patients have received in hospital;
- c. linkage between medical care insurance claims for the same individual;
- d. linkage between medical care insurance and hospital records (see Recommendation 10);
- e. linkages within the vital records system to establish family relationships, for studies of family constellations of disease.

Permissible specific applications of record linkage are limited by the quality of the original records in relation to the new purpose and must recognize the limitations implicit in coding.

26. Unique Individual Numbers — National System

THAT the Department initiate discussions with other departments of the Ontario Government and with the Federal Government concerning the feasibility of giving to a single national governmental office the responsibility for issuing unique individual numbers to every member of the population regardless of age or employment status.

